

**Review by the
Office of Program Evaluation and Government Accountability (OPEGA)
Response from the Office of Information Technology (OIT)
March 1, 2013**

PROJECT MANAGEMENT ROADMAP, 2013-2014

Executive Summary

Executive Outline:

1. Project management in the industry
2. Outline of the current state of project management at the Office of Information Technology (OIT).
3. A new vision for the Project Management Office including 4 keys to success
4. Roadmap for success including high level timeline

Transformational Goals of the Project Management Office (2013 – 2014):

1. Change organization of the PMO to be more flexible and accountable.
2. Change the role of the PMO to provide project leadership and good governance.
3. Evolve the model and methodology of the PMO.
4. Establish enterprise governance for technology projects.
5. Evolve the State of Maine project delivery capability as per the industry benchmark (Capability Maturity Model) index score from 2 (reactive) to 3 (proactive). The ultimate goal would be to get to level 4 (processes measured and controlled) in the future.
[Source: Software Engineering Institute (SEI)].

Summer of 2013	Fall of 2013	Summer of 2014	2015 and Beyond
<ul style="list-style-type: none">• PMO Restructuring• Retraining• Some projects using Agile• Discuss Agile governance with business leaders	<ul style="list-style-type: none">• All new projects use Agile• New PMO project initiation policies• Agile Center of Excellence pilot• Requirements gathering process standardized• Gating workflow established within enterprise governance	<ul style="list-style-type: none">• Agile PM and portfolio management tools implemented• Standard project intake regime in place• Some agencies will have adopted Agile governance matures• Gating workflow• CMM level 3	<ul style="list-style-type: none">• Wide acceptance of Agile PMs• Successful deliveries• CMM level 4

Section 1: Project Management in the Industry

Delivering technology projects successfully poses persistent and continuing challenges to organizations. According to industry statistics, 57% of traditional application development projects were poorly scoped and 30% had unattainable requirements (Source – IBM). Below are some examples:

Military Software Plan – large expenditure, no result

A military branch attempted to implement a \$628 million holistic software suite that would have replaced all systems supporting of their combat support system. In four years the project grew to \$1 billion expenditure and would have required another \$1 billion for a reduced set of features. The project was cancelled.

State HR Project Fails

A state recently expended \$90 million to replace their HR system with a new product. They purchased a large established HR product. The project was completed but later it was discovered that it had multiple serious flaws that made it unusable.

State DOL benefits and tax system – no results

A Midwestern state spent eight years and \$30 million dollars to replace the benefits and tax system with a custom product. It had numerous project managers and volumes of requirements. The project was cancelled.

There are some common themes among these projects:

1. Lack of strong business participation.
2. Lack of a single accountable owner for the project success.
3. Unachievable goals.
4. Lack of Business Process Management.
5. Lack of resources dedicated to the project.
6. Poorly written requirements.
7. Weak or no technology or project governance.
8. Poor or no communication between business and technology teams.
9. Waterfall approach.

The Waterfall Approach:

The Waterfall approach is a “plan driven” method of project management with three key processes performed in a strict order:

1. Detailed and lengthy planning and requirements gathering (often over a year in duration).
2. A long development and testing period.
3. Big Bang release at the end.

In Waterfall success is measured by how close the project is to the predicted plan. Waterfall was a model used in computer hardware development and, since no process existed for software development, Waterfall was used.

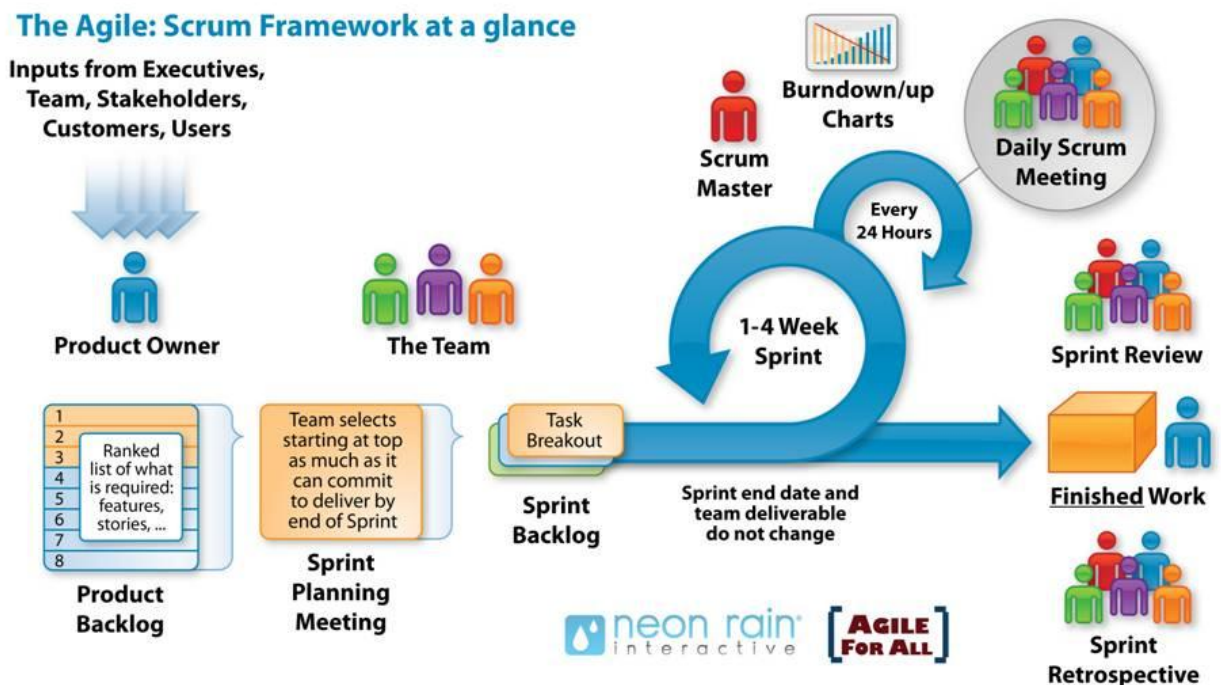
Challenges in the Water Fall Approach:

1. The Waterfall model isolates business from the critical details of the project.
2. Things change faster than the planning can be completed.
3. The Waterfall model does nothing to determine requirements are clear.
4. Communication is done through densely written and voluminous documentation.
5. Status reporting is what happened in the past, not what will happen next.
6. It encourages silos by routing all communication through a single source.
7. Plans are predictive, and mostly the view of the future is overly optimistic and often wrong.
8. A single error made in the planning stage can go undetected until launch.
9. Scope change process is difficult and slows down needed changes.
10. Quality assurance (QA) is the last thing on the plan, so overruns cause teams to use QA time for development time leading to poor quality results.
11. Waterfall emphasis is the plan, and does not easily allow for change.

The Direction of the IT industry today

The IT Industry is moving away from Waterfall and toward a method that is more compatible with the reality of software implementation. This method is called Agile Systems Development. Agile is the fastest growing software implementation method in the world, and boasts greatly increased success rates for IT projects. Agile was developed to allow for change, ensure participation of all decision-makers, and test code early and often. It emphasizes collaboration and ownership, and provides code to test early to avoid “57% of ... projects were poorly scoped.”

The Figure below illustrates the Agile methodology:



Section 2: Challenges with Project Management in Maine

The OIT Project Management Office (PMO) currently uses the Waterfall model.

We estimate that there are 130 projects currently in flight or planned to be in flight in the next year. The PMO contains 17 positions when fully staffed. We are currently staffed by 12 full time PMs and 3 contractors. Below are the challenges faced by the PMO:

Business challenges:

1. Business involvement is inconsistent.
2. Business' role in project governance is often passive.
3. Business typically calls the PMO when they are already in trouble.
4. Having a Project Manager is considered optional in some areas.

PMO challenges:

1. Understaffed Project Management Office: 130 projects in flight are too many for the number of resources.
2. Current skill sets in the PMO are inconsistent with modern practices.
3. The practice of the PMO is inconsistent.
4. The PMO is organized improperly and lacks appropriate internal accountability chains.
5. Weak portfolio management system and practice.
6. Reliance on the Waterfall method.

Section 3: A New Vision for Project Management for the State of Maine

The Goal of the PMO is to convert the goals and objectives of the business into successful projects that achieve real outcomes for their constituents and customers. There are several keys (industry standards) that will lead to success:

Technology projects need to be thought of and managed as business projects with a technology component.

1. Active agency involvement
2. Projects and outcomes co-owned by business and IT
 - a. Identify business owner
 - b. Business decision maker
 - c. Subject matter experts (SMEs)
 - d. Technical resources
 - e. Quality assurance resources
3. Use of cross-function collaborative teams
4. Alignment of methodology across the organization

Keys to Success (PMO)

1. Reorganize the PMO
 - a. Add program managers
 - b. Add business analysts
2. Evolve to Agile methodology
3. Governance to ensure all roles, including business are fulfilled
4. Train the PMO

Key Objectives:

1. Reorganize the PMO:

a. Program Managers:

- Accountable for working with agencies to establish good technology governance.
- Align technology goals with strategic goals.
- Assist with business process management.
- Act as the top accountable for large programs with a contiguous line of business.
- Accountable for continuous program improvements.
- Ensure PMs adhere to the methodology.

b. Project Managers:

- Lead specific projects to completion.
- Create project level governance.
- Lead communications.
- Work with specific delivery teams.
- Adhere to proven methods of project delivery.
- Accountable for the quality of outcomes and deliveries.
- Expert in managing risk, budgets, and facilitation.

c. Business Analysts:

- Responsible for collecting, understanding, and creating traceable, measurable, and actionable requirements.
- Works with the PM to achieve consensus on a clear set of actions.
- Works with the business on understanding what must be delivered at a detailed level.
- Works with the development team to make sure those requirements are understandable and realistic.
- Works with development teams to design delivery packages.
- Works with subject matter experts on writing and executing user acceptance testing.

2. Evolve to Agile:

- a. Agile easily accommodates necessary changes of scope to meet outcomes.
- b. Iterative delivery assures business sees deliveries frequently.
- c. Collaborative teams insure business involvement.
- d. Delivery and resources commitments are made up front:
 - No work is promised without resources
 - No work begins until it's ready
- e. Multi checks at every stage for quality.
- f. Time frames and budgets are locked, reducing unplanned overruns.
- g. Daily communication between team members.
- h. Problems are addressed immediately as they are discovered.

3. Enterprise level governance for each project (projects cannot start without these in place):

- a. Identified and active:
 - Business owner/decision maker
 - Subject matter experts (SMEs)
 - Technical resources
 - Quality assurance (QA) resources
- b. Funding.
- c. Clear deliverables and goals.
- d. Governance structure and oversight (steering committee for major projects).
- e. Risk assessment and mitigation.
- f. Value assessment (do the risks outweigh the value?)

4. Train the PMO:

- a. Identify Agile PM training resources.
- b. Train the PMO in Agile methods.
- c. Create a career enhancement curriculum.

Section 4: Road Map

Summer of 2013:

1. Organization

- a. New job descriptions and organization structure and org chart finalized.
- b. Key vacancies are filled with Agile PMs.
- c. Business analyst practice within the PMO defined.
- d. Seek additional staff to operate an Agile Center of Excellence.

2. Evolve to Agile

- a. New business case documents that support Agile complete and in use.
- b. Selected Projects will begin using some aspects of Agile.
- c. First short term agile projects report lessons learned.
- d. The PMO begins closely aligning with App/Dev and TBCs resources.
- e. The PMO begins changing project process for new projects.
- f. The PMO identifies projects ready for aspects of agile.
- g. PMO leadership identifies thought leaders to promulgate the model.

3. Governance

- a. The PMO in partnership with the leadership team communicates the importance of business involvement and collaboration.

4. Training

- a. Agile training for PMs identified, scheduled and in process.

Fall of 2013:

1. Organization

- a. New Job Class vacancies filled.
- b. All Staff is aligned to new structure.
- c. A cross discipline agile curriculum is established.
- d. The PMO establishes a Center of Excellence for Agile Methodology.
- e. Business Analyst Business Process Management trainings scheduled.

2. Evolve to Agile

- a. All PM artifacts for agile are finalized.
- b. Agile PM tools are identified and implementation begins.
- c. Requirements gathering process standardized.

3. Governance

- a. The PM is consulted at the start of every project via intake process.
- b. Project intake process finalized.
- c. PM and OIT review process reformed to evidence based review.
- d. Gating Workflow Established

4. Training

- a. The PMO provides training to business partners.

- b. The PMO conducts informational outreach sessions for Business partners.

Spring of 2014:

1. Organization

- a. Final adjustments to organizational structure complete.
- b. Staff is aligned to Application Development and Technology Business Consultant resources.
- c. The PMO Center of Excellence is in operation.

2. Evolve to Agile

- a. Agile PM tools implemented.
- b. Complete delivery chain process finalized.
- c. Project Managers are leading Agile teams.
- d. Some agencies will have adopted Agile governance.
- e. The language of Agile and value-driven practice will be commonplace.
- f. A growing number of agencies will partner closely with OIT and the PMO to achieve outcomes.

3. Governance

- a. Project intake process in full use.
- b. Gating workflow fully mature
- c. Final adjustments to PM review process in place.
- d. The PM is consulted at the start of every project via intake process.
- e. Program managers are engaged with facilitating good governance practices with agencies.
- f. First metrics for delivery rates available
- g. Portfolio Management tools in place
- h. CMM level 3 achieved.

4. Training

- a. First group of fully able Agile PMs are trained.
- b. First group of fully able Business Analysts are trained.

2015 and beyond:

- 1. The practice matures.
- 2. Wide acceptance of Agile PMs.
- 3. Regular adjustments to improve the practice – CMM level 4.
- 4. More agencies use Agile methods.
- 5. CMM level 4 achieved.